UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,520	07/09/2001	David W. Smith	2000.054300	4919

			EXAMINER
23720	7590	02/13/2006	MOORTHY, ARAVIND K

WILLIAMS, MORGAN & AMERSON
10333 RICHMOND, SUITE 1100
HOUSTON, TX 77042

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/901,520	SMITH ET AL.
	Examiner	Art Unit	
	Aravind K. Moorthy	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 December 2005</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>09 July 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. This is in response to the arguments filed on 2 December 2005.

2. Claims 1-25 are pending in the application.

3. Claims 1-25 have been rejected.

Response to Arguments

4. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

5.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 15 and 25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 22 and 34 of Smith et al U.S. Patent No. 6,973,566 B2 (hereinafter Smith) in view of Applied Cryptography (hereinafter Schneier).

As to claims 1 and 15, Smith discloses a communications system, comprising:

a physical layer hardware unit adapted to communicate data over a communications channel in accordance with assigned transmission parameters, the physical layer hardware unit being adapted to receive an incoming signal over the communications channel and sample the incoming signal to generate a digital received signal [column 10, lines 29-50]; and

a processing unit adapted to execute a standard mode driver in a standard mode of operation and a privileged mode driver in a privileged mode of operation, wherein the standard mode driver includes program instructions adapted to extract data from the digital received signal and pass the data to the privileged mode driver, and the privileged mode driver includes program instructions adapted to generate data including control codes and transfer the control codes to the physical layer hardware unit, the physical layer hardware being adapted to

configure its assigned transmission parameters based on the control codes [column 10, lines 29-50].

Smith does not teach that the data extracted from the digital received signal is encrypted. Smith does not teach decrypting the encrypted data.

Schneier teaches encrypting and decrypting data and their benefits [pages 1-4].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Smith so that the standard mode driver would have include program instructions adapted to extract encrypted data from the digital received signal and pass the encrypted data to the privileged mode driver. The privileged mode driver would have decrypted the encrypted data to generate decrypted data including control codes.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Smith by the teaching of Schneier because encryption/decryption provides authentication, integrity and nonrepudiation [page 2].

As to claim 25, Smith discloses a modem, comprising:

means for receiving data over a communications channel in a standard processing mode of a processing unit [column 13 line 17 to column 14 line 20];

means for transitioning the processing unit into a privileged processing mode [column 13 line 17 to column 14 line 20];

means for extracting control codes from the data in the privileged processing mode [column 13 line 17 to column 14 line 20]; and

means for transmitting an upstream signal over the communications

channel based on transmission assignments defined by the control codes [column

13 line 17 to column 14 line 20].

Smith does not teach that the data that is received over a communications channel is

encrypted.

Schneier teaches encrypting and decrypting data and their benefits [pages 1-4].

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Smith so that the data, which was received over a

communications channel in a standard processing mode of a processing unit, would have been

encrypted. There would have been means for decrypting the encrypted data in the privileged

processing mode.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Smith by the teaching of Schneier because

encryption/decryption provides authentication, integrity and nonrepudiation [page 2].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 3-5, 9-12, 15, 17, 18, 20-22 and 25 are rejected under 35 U.S.C. 102(e) as being**

anticipated by England et al U.S. Patent No. 6,986,059 B2.

As to claims 1 and 15, England et al discloses a communications system, comprising:

a physical layer hardware unit adapted to communicate data over a

communications channel in accordance with assigned transmission parameters,

the physical layer hardware unit being adapted to receive an incoming signal over

the communications channel and sample the incoming signal to generate a digital

received signal [column 5 line 44 to column 6 line 18]; and

a processing unit adapted to execute a standard mode driver in a standard

mode of operation and a privileged mode driver in a privileged mode of operation,

wherein the standard mode driver includes program instructions adapted to

extract encrypted data from the digital received signal and pass the encrypted data

to the privileged mode driver, and the privileged mode driver includes program

instructions adapted to decrypt the encrypted data to generate decrypted data

including control codes and transfer the control codes to the physical layer

hardware unit, the physical layer hardware being adapted to configure its assigned

transmission parameters based on the control codes [column 6 line 51 to column 7 line 43].

As to claim 3, England et al discloses that the privileged mode of operation comprises a system management mode of operation [column 6 line 51 to column 7 line 43].

As to claim 4 and 17, England et al discloses that the standard mode driver includes program instructions adapted to issue a signal to the processing unit to initiate a change from the standard mode of operation to the privileged mode of operation [column 6 line 51 to column 7 line 43].

As to claims 5 and 18, England et al discloses that the signal comprises a system management interrupt [column 8, lines 5-30].

As to claim 9, England et al discloses that the privileged mode driver include program instructions adapted to encrypt the control codes and pass the encrypted control codes to the standard mode driver [column 9, lines 3-61]. England et al discloses that the standard mode driver includes instructions adapted to send the encrypted control codes to the physical layer hardware unit [column 9, lines 3-61]. England et al discloses that the physical layer hardware unit is adapted to decrypt the encrypted control codes to reconstruct the control codes [column 9, lines 3-61].

As to claim 10, England et al discloses that the privileged mode driver includes instructions adapted to transfer the control codes directly to the physical layer hardware unit [column 6 line 51 to column 7 line 43].

As to claim 11, England et al discloses that the processing unit comprises a computer [column 6 line 51 to column 7 line 43].

As to claim 12, England et al discloses that the computer includes:

a processor complex adapted to execute the program instructions in the standard mode driver and the privileged mode driver [column 6 line 51 to column 7 line 43];

a bus coupled to the processor complex [column 6 line 51 to column 7 line 43]; and

an expansion card coupled to the bus, the expansion card including the physical layer hardware [column 6 line 51 to column 7 line 43].

As to claim 20, England et al discloses sending the control codes to a communications device adapted to transmit the upstream signal in the privileged processing mode [column 6 line 51 to column 7 line 43].

As to claim 21, England et al discloses the method further comprising:

encrypting the control codes in the privileged processing mode [column 6 line 51 to column 7 line 43];

transitioning the processing unit into the standard processing mode [column 6 line 51 to column 7 line 43]; and

sending the encrypted control codes to a physical layer device adapted to transmit the upstream signal in the standard processing mode [column 6 line 51 to column 7 line 43].

As to claim 22, England et al discloses the method further comprising:

decrypting the encrypted control codes in the physical layer device [column 6 line 51 to column 7 line 43]; and

configuring the physical layer device based on the control codes [column

6 line 51 to column 7 line 43].

As to claim 25, England et al discloses a modem, comprising:

means for receiving encrypted data over a communications channel in a

standard processing mode of a processing unit [column 6 line 51 to column 7 line

43];

means for transitioning the processing unit into a privileged processing

mode [column 6 line 51 to column 7 line 43];

means for decrypting the encrypted data in the privileged processing mode

[column 6 line 51 to column 7 line 43];

means for extracting control codes from the decrypted data in the

privileged processing mode [column 6 line 51 to column 7 line 43]; and

means for transmitting an upstream signal over the communications

channel based on transmission assignments defined by the control codes [column

6 line 51 to column 7 line 43].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over England et al U.S. Patent No. 6,986,059 B2 as applied to claims 1 and 15 above, and further in view of Fleming, III et al U.S. Patent No. 6,212,360 B1.

As to claims 2 and 16, England et al does not teach that the control codes include at least one of a power level assignment, a frequency assignment, and a time slot assignment.

Fleming, III et al teaches control codes that include at least one of a power level assignment, a frequency assignment, and a tune slot assignment [column 11 line 60 to column 12 line 13].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified England et al so that the control code would have been power level assignment.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified England et al by the teaching of Fleming, III et al because adjusting power in the modem it helps overcome rain fades in wireless or satellite systems [column 2, lines 39-46].

9.   **Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over England et al U.S. Patent No. 6,986,059 B2 as applied to claims 1 and 15 above, and further in view of Weidner et al U.S. Patent No. 5,987,572.**

As to claims 6 and 19, England et al teaches that the processing unit includes a memory device adapted to store the encrypted data [column 6 line 51 to column 7 line 43].

England et al does not teach that the standard mode driver includes program instructions adapted to pass a pointer indicating a location of the encrypted data within the memory device to the privileged mode driver.

Weidner et al teaches program instructions adapted to pass a pointer indicating a location of the encrypted data within the memory device to the privileged mode driver [column 4, lines 7-35].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified England et al so that there would have been program instructions adapted to pass a pointer indicating a location of the encrypted data within the memory device to the privileged mode driver.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified England et al by the teaching of Weidner et al because it protects data communicated between the processor and the memory [column 2, lines 9-12].

10. Claims 7, 8, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over England et al U.S. Patent No. 6,986,059 B2 as applied to claims 1 and 15 above, and further in view of Bestock U.S. Patent No. 5,363,449.

As to claims 7, 8, 23 and 24, England et al does not teach that the privileged mode driver includes program instructions adapted to extract user data from the decrypted data and pass the user data to the standard mode driver. England et al does not teach that the processing unit includes a memory device adapted to store the user data. England et al does not teach that the privileged mode driver includes program instructions adapted to pass a pointer indicating a location of the user data within the memory device to the standard mode driver.

Bestock teaches a privileged mode driver that includes program instructions adapted to extract user data from the decrypted data and pass the user data to the standard mode driver. Bestock teaches that the processing unit includes a memory device adapted to store the user data. Bestock teaches that the privileged mode driver includes program instructions adapted to pass a pointer indicating a location of the user data within the memory device to the standard mode driver [column 4, lines 6-66].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified England et al so that a privileged mode driver would have included program instructions adapted to extract user data from the decrypted data and pass the user data to the standard mode driver. The processing unit would have included a memory device adapted to store the user data. The privileged mode driver would have included program instructions adapted to pass a pointer indicating a location of the user data within the memory device to the standard mode driver.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified England et al by the teaching of Bestock because

verification of a user is taking place on an ongoing basis [column 2, lines 9-28].

11.   Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

England et al U.S. Patent No. 6,986,059 B2 as applied to claim 1 above, and further in view

of Albrecht et al U.S. Patent No. 6,510,521 B1.

As to claims 13 and 14, England et al does not teach that the processing unit includes a

system basic input output system (BIOS) memory adapted to store the privileged mode driver.

England et al does not teach that the processing unit is adapted to load the privileged mode driver

from the system BIOS into a protected memory location during initialization of the computer.

Albrecht et al teaches that the processing unit includes a system basic input output system

(BIOS) memory adapted to store the privileged mode driver. Albrecht et al teaches that the

processing unit is adapted to .load the privileged mode driver from the system BIOS into a

protected memory location during initialization of the computer [column 4, lines 23-44].

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified England et al so that a system basic input output

system (BIOS) memory would have been adapted to store the privileged mode driver. The

processing unit would have been adapted to load the privileged mode driver from the system

BIOS into a protected memory location during initialization of the computer.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified England et al by the teaching of Albrecht et al because it

provides a more robust approach to preventing unauthorized access to non-volatile storage, in

particular, an approach that does not rely on the access method not being known [column 1, lines 27-32].

Conclusion

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K. Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy
February 4, 2006